

**Commonwealth of Kentucky**  
**Natural Resources and Environmental Protection Cabinet**  
**Department for Environmental Protection**  
**Division for Air Quality**  
**803 Schenkel Lane**  
**Frankfort, Kentucky 40601**  
**(502) 573-3382**

## AIR QUALITY PERMIT

**Permittee Name:** Dart Polymers, Inc.  
**Mailing Address:** 2400 Harbor Road  
Owensboro, Kentucky 42301

**Source Name:** Dart Polymers, Inc.  
**Mailing Address:** 2400 Harbor Road  
Owensboro, Kentucky 42301

**Source Location:** 2400 Harbor Road, Owensboro

**Permit Type:** Federally-Enforceable Title V  
**Review Type:** Title V/Synthetic Minor

**Permit Number:** V-00-003  
**Log Number:** 50667/51350  
**Application Complete Date:** March 27, 2000

**KYEIS ID #:** 21-059-00131  
**SIC Code:** 2821

**Region:** Owensboro  
**County:** Daviess

**Issuance Date:** June 4, 2001  
**Expiration Date:** June 4, 2006

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**John E. Hornback, Director**  
**Division for Air Quality**

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## **SECTION A - PERMIT AUTHORIZATION**

Pursuant to a duly submitted application which was determined to be complete on March 24, 2000, the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto and shall become the final permit unless the U.S. EPA files an objection pursuant to Regulation 401 KAR 50:035, Section 21(3).

The permittee shall not construct, reconstruct, or modify any affected facilities without first having submitted a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in the Regulation 401 KAR 50:035, Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS****01 (--) Batch Process Vents, Plant 1 – Mass Plant (Polystyrene Pellets Production)**

**Description:** Primary Product: Polystyrene Pellets. Control Equipment for VOC: None

The following equipment/operations (1 through 10) are vented to the Antioxidant Tank Vent:

Stack: (M6) Antioxidant Tank Vent

Line 1:

- |    |                         |                        |
|----|-------------------------|------------------------|
| 1. | Pre-batch Reactor R-101 | (Group 2 process vent) |
| 2. | Pre-poly Reactor R-102  | (Group 2 process vent) |
| 3. | U-tube Reactor R-1310   | (Group 2 process vent) |

Line 2:

- |     |   |                        |
|-----|---|------------------------|
| 4.  | Pre-batch Reactor R-201   | (Group 2 process vent) |
| 5.  | Pre-poly Reactor R-202  | (Group 2 process vent) |
| 6.  | U-tube Reactor R-2310   | (Group 2 process vent) |
| 7.  | Rubber Dissolver Process Tank #1<br>6,000 gal, Constructed 3/9/70 | (Group 2 process vent) |
| 8.  | Rubber Dissolver Process Tank #2<br>6,000 gal, Constructed 3/9/70 | (Group 2 process vent) |
| 9.  | Rubber Dissolver Process Tank #3<br>6,000 gal, Constructed 3/9/70 | (Group 2 process vent) |
| 10. | Antioxidant (Slurry) tank, TK-0710                                | (Group 2 process vent) |

The following equipment/operations (11 & 12) are vented to the Take off Lines Vent:

Stack: (M8) Take Off Lines Vent

- |     |                  |
|-----|------------------|
| 11. | Die Heads Line 1 |
| 12. | Die Heads Line 2 |

Note: The Emission Points 11 and 12 are exempt from Subpart JJJ requirements [40 CFR 63.1310(d)(4)].

**02 (--) Batch Process Vents, Plant 3 – Suspension Plant (Polystyrene Beads Production)**

**Description:** Primary Product: Polystyrene Beads. Control Equipment for VOC: None

- |    |                               |                        |
|----|-------------------------------|------------------------|
| 1. | Batch Reactors (R-101&R-102 ) | (Group 2 process vent) |
|    | Stack: Roof Vent (S6)         |                        |
| 2. | Batch Reactors (R-103&R-104 ) | (Group 2 process vent) |
|    | Stack: Roof Vent (S7)         |                        |

**APPLICABLE REGULATIONS:**

Regulation 401 KAR 63:002 (40 CFR Part 63) *National Emission Standards for Hazardous Air Pollutants* applies to the Thermoplastic Product Process Unit (TPPU). Specifically, Regulation 40 CFR 63.1310, Subpart JJJ - Group IV Polymers and Resins applies to the TPPU. Pursuant to 40 CFR 63.1311, the applicable requirements under 40 CFR 63, Subpart JJJ shall not apply to this existing unit until June 19, 2001.

**1. Operating Limitations:****Group 2 Vents:**

According to 40 CFR 63.1322(f), Group 2 batch process vents with annual emissions greater than equal to the level specified in 63.1323(d) [11,800 kg/yr or 26,007 lb/yr] shall comply with 40 CFR 63.1322(f)(1), f(2) or (h).

□ 40 CFR 63.1322(f)(1):

- i. Establish a “*batch mass input limitation*” that ensures that Group 2 batch vents do not become Group 1 vents.
- ii. Over the course of the affected source’s “year”, as reported in the Notification of Compliance Status in accordance with Sec. 63.1335(e)(5)(iv), the owner or operator shall not charge a mass of HAP or material to the batch unit operation that is greater than the level established as the batch mass input limitation.
- iii. The owner or operator shall comply with the recordkeeping requirements in Sec. 63.1326(d)(2), and the reporting requirements in Sec. 63.1327(a)(3), (b), and (c).
- iv. The owner or operator shall comply with Sec. 63.1323(i), when process changes are made.

□ 40 CFR 63.1322(f)(2): Comply with the requirements of this subpart for Group 1 batch process vents.

□ 40 CFR 63.1322(h): Owners or operators of Group 2 batch process vents are not required to establish a batch mass input limitation if the batch process vent is Group 2 at the conditions specified in paragraphs (h)(1) and (h)(2) of this section and if the owner or operator complies with the recordkeeping provisions in Sec. 63.1326(a)(1) through (3), 63.1326(a)(9), and 63.1326(a)(4) through (6) as applicable, and the reporting requirements in Sec. 63.1327(a)(5), (a)(6), and (b).

- i. 40 CFR 63.1322(h)(1): Emissions for the single highest-HAP recipe (considering all products that are produced in the batch unit operation) are used in the group determination; and
- ii. 40 CFR 63.1322(h)(2): The group determination assumes that the batch unit operation is operating at the maximum design capacity of the TPPU for 12 months.

According to 40 CFR 63.1322(g), Group 2 batch process vents with annual emissions less than equal to the level specified in 63.1323(d) [11,800 kg/yr or 26,007 lb/yr] shall comply with 40 CFR 63.1322(g)(1), (g)(2), (g)(3), or (g)(4).

□ 40 CFR 63.1322(g)(1):

- i. 40 CFR 63.1322(g)(1)(i): Establish a “*batch mass input limitation*” that ensures that emissions do not exceed the level specified in Sec. 63.1323(d).
- ii. 40 CFR 63.1322(g)(1)(ii): Over the course of the affected source’s “year”, as reported in the Notification of Compliance Status in accordance with Sec. 63.1335(e)(5)(iv), the owner or operator shall not charge a mass of HAP or material to the batch unit operation that is greater than the level established as the batch mass input limitation.

- iii. 40 CFR 63.1322(g)(1)(iii): The owner or operator shall comply with the recordkeeping requirements in Sec. 63.1326(d)(1), and the reporting requirements in Sec. 63.1327(a)(2), (b), and (c).
- iv. 40 CFR 63.1322(g)(1)(iv): The owner or operator shall comply with Sec. 63.1323(i), when process changes are made.
  - 40 CFR 63.1322(g)(2): Comply with the requirements of 40 CFR 63.1322(f)(1). See above.
  - 40 CFR 63.1322(g)(3): Comply with the requirements of 40 CFR 63.1322(f)(2). See above.
  - 40 CFR 63.1322(g)(4): Comply with the requirements of 40 CFR 63.1322(h). See above.

**Compliance Demonstration:**

- a. The "Batch mass input Limitation" shall be determined according to 40 CFR 63.1325(g).
- b. See the Record Keeping and Reporting Requirements below.

**2. Emission Limitations:**

If complying with 40 CFR 63.1322(g), the emissions from the each Group 2 batch process vent listed above shall not exceed 11,800 kg/yr (26,007 lb/yr). If complying with 40 CFR 63.1322(f), See the operating limitations above.

**Compliance Demonstration:**

See the compliance demonstration for 1. Operating Limitations above.

**3. Testing Requirements:** None**4. Specific Monitoring Requirements:** None**5. Specific Recordkeeping Requirements:**

Group 2 batch process vents shall comply with either paragraph 40 CFR 63.1326(d)(2) or d(1) based on whether process vent is complying with 43 CFR 63.1322 (f) or 63.1322 (g) respectively.

- a. 63.1326(d)(1) - The following records shall be kept up-to-date and readily accessible:
  - i. Records designating the established batch mass input limitation required by 63.1322(g)(1) and specified 63.1325(g).
  - ii. Records specifying the mass of HAP or material charged to the batch unit operation.
- b. 63.1326(d)(2) - The following records shall be kept up-to-date and readily accessible:
  - i. Records designating the established batch mass input limitation required by 63.1322(f)(1) and specified in 63.1325(g).
  - ii. Records specifying the mass of HAP or material charged to the batch unit operation.
- c. See Section D, Source Emission Limitations and Testing Requirements.

**6. Specific Reporting Requirements:**

- a. If the process vent is complying with 43 CFR 63.1322 (g), the reporting shall be done according to 40 CFR 63.1327(a)(2), (b), and (c).
  - i. 40 CFR 63.1327(a)(2) referring to 40 CFR 63.1326(d)(1)(i):  
Records designating the established batch cycle limitation required by 40 CFR 63.1322(g)(1) and specified in 40 CFR 63.1325(g).

ii. 40 CFR 63.1327(b):

Whenever a process change, as defined in 40 CFR 63.1323(i)(1), is made that causes a Group 2 batch process vent to become a Group 1 batch process vent, the owner or operator shall notify the Administrator and submit a description of the process change within 180 days after the process change is made or with the next periodic report, whichever is later. The owner or operator of an affected source shall comply with the Group 1 batch process vent provisions in Secs. 63.1321 through 63.1327 in accordance with Sec. 63.480(I)(2)(ii).

iii. 40 CFR 63.1327 (c):

Whenever a process change, as defined in 40 CFR 63.1323(i)(1), is made that caused a Group 2 batch process vent with annual emissions less than the level specified in 40 CFR 63.1323(d) for which the owner or operator has chosen to comply with Sec. 63.1322(g) to have annual emission greater than or equal to the level specified in Sec. 63.1323(d) but remains a Group 2 batch process vent, or if a process change is made that requires the owner or operator to redetermine the batch mass input limitation as specified in Sec. 63.1323(I)(3), the owner or operator shall submit a report within 180 days after the process change is made or with the next Periodic Report, whichever is later. The following information shall be submitted:

- 1) A description of the process change
- 2) The results of the re-determination of the annual emissions, average flow rate, and cutoff flow rate required under 40 CFR 63.1323(i) and recorded under 40 CFR 63.1326(a)(3) through (a)(5); and
- 3) The batch mass input limitation determined in accordance with 40 CFR 63.1322(f)(1).

## b. If the process vent is complying with 40 CFR 63.1322(f), the reporting shall be done according to 40 CFR 63.1327(a)(3) and (b).

i. 40 CFR 63.1327(a)(3) referring to 40 CFR 63.1326(d)(2)(i):

Records designating the established batch mass input limitation required by 40 CFR 63.1322(f)(1) and specified in 40 CFR 63.1325(g).

ii. 40 CFR 63.1327(b): See above in (a).iii. 40 CFR 63.1327(c): See above in (a).

## c. See Section D, Source Emission Limitations and Testing Requirements.

**7. Specific Control Equipment Operating Conditions:** None**8. Alternate Operating Scenarios:** See Section H, Alternate Operating Scenarios.

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****03 (--) Group 2 Continuous Process Vents per 40 CFR 63, Subpart JJJ  
Plant 1 – Mass Plant (Polystyrene Pellets Production)**

The following equipment/operations are vented to the Vacuum pump vent (M7) (1 through 5):

Stack: (M7) Vacuum Pump Vent

- |                                 |                           |
|---------------------------------|---------------------------|
| 1. Pregraft Reactor (R-3210)    | (Continuous Process Vent) |
| 2. Prepoly Reactor (R-3310)     | (Continuous Process Vent) |
| 3. Tower 2 Reactor (R-3510)     | (Continuous Process Vent) |
| 4. Recycle Tank                 | (Continuous Process Vent) |
| (D-3110 through #1 Devolatizer) |                           |
| 5. DV2 condenser                | (Continuous Process Vent) |
| (C-3810 through #2 Devolatizer) |                           |
| 6. Line 1&2 Condenser Vent      | (Continuous Process Vent) |
| 7. Line 1&2 EB Condensate Tank  | (Continuous Process Vent) |

The following equipment/operation (point 8) is vented to the Take off Lines Vent:

Stack: (M8) Take Off Lines Vent

8. Die Head Line 3

Note: Point 8 is exempt from Subpart JJJ requirements [40 CFR 63.1310(d)(4)].

**APPLICABLE REGULATIONS:**

Regulation 401 KAR 63:002 (40 CFR Part 63) National Emission Standards for Hazardous Air Pollutants applies to the Thermoplastic Product Process Unit (TPPU). Specifically, Regulation 40 CFR 63.1310, Subpart JJJ - Group IV Polymers and Resins applies to the TPPU. Pursuant to 40 CFR 63.1311, the applicable requirements under 40 CFR 63, Subpart JJJ shall not apply to this existing unit until June 19, 2001.

Regulation 401 KAR 60:005, 40 CFR Part 60 standards of performance for new stationary sources applies to the polystyrene manufacturing process that uses a continuous process. Specifically 40 CFR 60 Subpart DDD, Standards of performance for Volatile Organic Compound (VOC ) emissions from the polymer manufacturing industry applies. However, according to 40 CFR 63.1311(i)(1), after the compliance date (of 40 CFR 63, Subpart JJJ which is June 19, 2001), the affected sources are not subject to 40 CFR 60, Subpart DDD.

**1. Operating Limitations: None****2. Emission Limitations:**

- a. Pursuant to 40 CFR 63.1316(c), the source producing polystyrene resin using continuous process shall comply with the requirements specified in 40 CFR 63.1316(c)(1) through (c)(3).



40 CFR 63.1316(c)(1): Limit the organic HAP emissions from the continuous process vents in the collection of material recovery section by complying with one of the following: 40 CFR 63.1316(c)(1)(i), (ii) or (iii). Dart Polymers chose to comply with 40 CFR 63.1316(c)(1)(i) which allows no emissions to be greater than 0.0036 kg organic HAP/Mg of product.

- b. Pursuant to 40 CFR 60.562-1(b)(1), each owner or operator of a polystyrene process line shall limit the continuous TOC emissions from the material recovery section. The continuous TOC emissions shall not exceed 0.0036 kg TOC/Mg product.

### **Compliance Demonstration:**

To comply with emission limit of 0.0036 kg HAP/Mg of product [2(a) above]:

- a. The rate of product produced (kg/hr) shall be recorded.
- b. To calculate the emissions in kg/Mg of product the following equation shall be used [40 CFR 63.1318(c) referring to 40 CFR 63.1318(b)(1)(i)]:

$$ER = \sum_{i=1}^n \frac{E_i}{(0.001P_p)}$$

Where

ER = Emission rate of total organic HAP or TOC, kg/Mg product

E<sub>i</sub> = Emission rate of total organic HAP or TOC in continuous process vent i, kg/hr

P<sub>p</sub> = The rate of polymer produced, kg/hr

N= Number of continuous process vents in the collection of material recovery sections at the affected source.

0.001 is the Conversion factor, kg to Mg

- c. The mass emission rate for each continuous process vent, E<sub>i</sub>, shall be determined according to the procedures specified in 40 CFR 63.1318(b)(1)(i) except 40 CFR 63.1316(a)(1)(i) is not applicable and need not be complied with.
- d. The rate of polymer produced, P<sub>p</sub> (kg/hr), shall be determined according to procedures specified in 40 CFR 63.1318(b)(1)(ii).

To comply with emission limit of 0.0036 kg HAP/Mg of product [2(b) above]:

- a. See 4.c. Specific Monitoring Requirements below.
- b. Dart has performed a source test on November 16, 1996 to show compliance with the emission limit.

### **3. Testing Requirements:**

- a. To comply with mass emission rate (kg/hr), the procedures specified in 40 CFR 63.116(c)(4) shall be followed. However, Method 18 or Method 25A, 40 CFR 60, appendix A may be used for the purpose of compliance with Subpart JJJ instead of Method 18, 40 CFR 60, appendix A.
- b. The use of Method 25 A, 40 CFR part 60, appendix A shall comply with paragraphs 40 CFR 63.1318(b)(1)(i)(A) and (b)(1)(i)(B).
- c. The rate of polymer produced, P<sub>p</sub> (kg/hr), shall be determined according to procedures specified in 40 CFR 63.1318(b)(1)(ii).

- d. The ER in kg/Mg product shall be calculated using the test results from a.) and c.) above to show compliance with the 0.0036 kg HAP/Mg of product by using equation listed in 2. Emissions Limitations above.

**4. Specific Monitoring Requirements:**

- a. For each of the Group 2 Continuous Process Vents:  
40 CFR 63.1317 requires continuous process vents to comply with 40 CFR 63.1315(a), which in turn requires the permittee to comply with 40 CFR 63.113 to 63.118. However, in accordance with the provisions of 40 CFR 63.113 (e), the permittee is not subject to any monitoring requirements of HON rule for Group 2 process vents.
- b. The permittee shall monitor the daily average rate of polymer produced, kg/hr. If the average production rate (kg/hr calculated on a daily basis) exceeds the production rate in 3.(c), Testing Requirements above by 10%, then the source shall redo the testing to ensure compliance with the emission rate limitation at the increased production rate. The permittee is reminded that, if process rates are increased above the rates contained in permit application, the permittee is required to apply for and be issued a permit prior to the initiation of the proposed activity.
- c. The permittee shall monitor devolatilization section vacuum level, to indicate whether the recovery system/vacuum system is operating as designed and compliance tested.

**5. Specific Recordkeeping Requirements:**

- a. See 4. Specific Monitoring Requirements above.
- b. See Section D, Source Emission Limitations and Testing Requirements.

**6. Specific Reporting Requirements:**

- a. The permittee shall submit Periodic Reports as specified in 40 CFR 63.1335.
- b. See Section D, Source Emission Limitations and Testing Requirements.

**7. Specific Control Equipment Operating Conditions: None**

**8. Alternate Operating Scenarios: None**

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****04 (--) Storage Vessels, Plant 1 – Mass Plant (Polystyrene Pellets Production)**

**Description:** Control Equipment for HAPS and VOCs: None

1. (M1) Styrene Tank  
Construction Date: 1/1/62, Size: 46,000 gal
2. (M2) Rubber Solution Tank 440 (Group 2 Storage Tank)  
Construction Date: 7/23/84, Size: 51,000 gal
3. (M3) Rubber Solution Tank 450 (Group 2 Storage Tank)  
Construction Date: 7/23/84, Size: 51,000 gal
4. (M4) Rubber Solution Tank 3010 (Group 2 Storage Tank)  
Construction Date: 1/1/94, Size: 30,000 gal
5. (M5) Rubber Solution Tank 3020 (Group 2 Storage Tank)  
Construction Date: 1/1/94 Size: 30,000 gal
6. (M9) Styrene Hill Tank  
Construction Date: 3/30/99 Size: 1,250,000 gal
7. (M9) Styrene Hill Tank  
Construction Date: 3/30/99 Size: 1,250,000 gal

Note: Storage tanks 1, 6 and 7 are exempt from the requirements of Subpart JJJ according to 40 CFR 63.1314(d).

**05 (--) Storage Vessels, Plant 3 – Suspension Plant (Polystyrene Beads Production)**

1. (S1) Hill Styrene Monomer Tank 310  
Construction Date: 11/17/85, Size: 700,000 gal
2. (S2) Hill Styrene Monomer Tank 320  
Construction Date: 04/17/89, Size: 700,000 gal
3. (S3) Hill Styrene Monomer Tank 330  
Construction Date: 10/28/94, Size: 850,000 gal
4. (S4) Styrene Monomer Day Tank  
Construction Date: 07/18/91, Size: 100,000 gal
5. (S5) Styrene Monomer Batch Tank  
Construction Date: 04/26/89, Size: 14,000 gal

Note: Emission Unit 05, Storage Tanks, Emission Points 1 through 5 are exempt from requirements of 40 CFR 63, Subpart JJJ according to 40 CFR 63.1314(d).

**06 (--) Shoreline Tanks**

**Description:** Control Equipment for HAPS and VOC: None

1. (X1) Shoreline Styrene Monomer Day Tank 350  
Construction Date: 07/07/78, Size: 300,000 gal
2. (X2) Shoreline Styrene Monomer Day Tank 360  
Construction Date: 07/07/78, Size: 300,000 gal

Note: Emission Unit 06, Storage Tanks, Emission Points 1 and 2 are exempt from requirements of 40 CFR 63, Subpart JJJ according to 40 CFR 63.1314(d).

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****APPLICABLE REGULATIONS:**

**401 KAR 63:002 (40 CFR Part 63)** *National Emission Standards for Hazardous Air*

*Pollutants* applies to the Thermoplastic Product Process Unit (TPPU). Specifically, Regulation 40 CFR 63.1310, Subpart JJJ - Group IV Polymers and Resins applies to the storage vessels Emission Unit 04, Emission Points 2 through 5. The tanks vessels Emission Unit 04, Emission Points 1, 6 and 7 are exempt from the requirements of Subpart JJJ [40 CFR 63.1314(d)].

**401 KAR 63:020**, *Potentially hazardous matter or toxic substances* applies to the toxics emissions from tanks vessels Emission Unit 04, Emission Points 1, 6, 7.

**401 KAR 60:005**, *Standards of Performance for New Stationary Sources* (40 CFR 60, Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels*) is applicable to vessels Emission Unit 04, Emission Points 4 through 7 and vessels Emission Unit 05, Emission Points 1 through 5 above.

**Note:** See the Note under the Applicable Regulations on Page 3

1. **Operating Limitations:** None

2. **Emission Limitations:** None

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:** None

5. **Specific Recordkeeping Requirements:**

a. **Group 2 Storage Tanks:**

Pursuant to Regulation 40 CFR 63.123(a), the permittee shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept as long as the storage vessel retains Group 2 status and is in operation.

b. **Emission Unit 04, Emission Points 4 through 7 and Emission Unit 05, Emission Points 1 through 5 [Requirements of 40 CFR 60, Subpart Kb]**

i. The records showing the dimension of the storage vessel and the analysis showing the capacity of the storage vessel shall be kept readily accessible. [40 CFR 60.116b(b)]

ii. The records required above shall be kept available for the life of the source. [40 CFR 60.116b(a)]

6. **Specific Reporting Requirements:**

a. The permittee shall submit Periodic Reports as specified in 40 CFR 63.1335 for all Group 2 storage tanks.

b. See Section D, Source Emission Limitations and Testing Requirements.

7. **Specific Control Equipment Operating Conditions:** None

8. **Alternate Operating Scenarios:** None

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

-- (--) **Wastewater Streams:**

**Plant 1 – Mass Plant (Polystyrene Pellets Production) and**

**Plant 3 – Suspension Plant (Polystyrene Beads Production)**

**REGULATIONS NOT APPLICABLE:**

Regulation 40 CFR 63.1310, Subpart JJJ - Group IV Polymers and Resins does not apply to the wastewater streams. Specifically, the provisions of 40 CFR 63.1330(a), (b) and (c) do not apply to the affected sources producing polystyrene using either a continuous or batch process. [40 CFR 63.1330(e)]

1. **Operating Limitations:** None
2. **Emission Limitations:** None
3. **Testing Requirements:** None
4. **Specific Monitoring Requirements:** None
5. **Specific Recordkeeping Requirements:** None
6. **Specific Reporting Requirements:** None
7. **Specific Control Equipment Operating Conditions:** None
8. **Alternate Operating Scenarios:** None

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****07 Equipment Leak Provisions - Pipeline Equipment:  
Plant 1 – Mass Plant (Polystyrene Pellets Production)**

**Description:** Process and Storage Pipeline Equipment including Light Liquid Pumps, Gas Valves, Gas Flanges, Gas Open Ended Valves, Gas PSVs, Liquid Valves, Liquid Flanges

Styrene Service- 83

Ethyl benzene Service- 48

**08 Equipment Leak Provisions - Pipeline Equipment:  
Plant 3 – Suspension Plant (Polystyrene Beads Production)**

**Description:** Process and Storage Pipeline Equipment including Light Liquid Pumps, Gas Valves, Gas Flanges, Gas Open Ended Valves, Gas PSVs, Liquid Valves, Liquid Flanges

Styrene Service- 46

**APPLICABLE REGULATIONS:**

**401 KAR 63:002 (40 CFR Part 63)** *National Emission Standards for Hazardous Air*

*Pollutants* applies to the Thermoplastic Product Process Unit (TPPU). Specifically, 40 CFR 63.1310, Subpart JJJ - *Group IV Polymers and Resins* applies to the TPPU.

**40 CFR 63.1331, (40 CFR 63 Subpart H)** applies to the pipeline equipment listed above with the differences noted in 40 CFR 63.1331(a)(1) through (a)(10).

**1. Operating Limitations :**

For the pipeline equipment in organic HAP service, the permittee shall maintain a leak detection and repair (LDAR) program containing the following elements:

- a. Each piece of pipeline equipment within Plant 1 (polystyrene pellets) and Plant 3 (polystyrene beads) shall be identified such that it can be distinguished readily from equipment that is not subject to 40 CFR 63 Subpart H [40 CFR 63.162 (c)].
- b. When a leak is detected as specified in 40 CFR 63.163 and 63.164; 63.168 and 63.169; and 63.172 through 63.174, the procedures described in 40 CFR 63.162 (f) (1) - (3) shall be followed to identify the leaking piece.
- c. See the Specific standards for each type of pipeline equipment described under **2. Emission Limitations** below.

**Compliance Demonstration Method:**

Compliance with 40 CFR 63 Subpart H shall be determined by review of the records required by 63.181 and the reports required by 63.182, review of performance test results, and by inspections [40 CFR 63.162 (a)].

**2. Emission Limitations :**

The permittee shall incorporate the following elements in the required leak detection and repair (LDAR) program. If any of the equipment qualifies for the specific exemptions available in 40 CFR 63.502(b) through (j) or 40 CFR 63 Subpart H, the permittee shall maintain records of the reason(s) why the equipment is exempt.

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- a. Standards: Pumps in light liquid service [40 CFR 63.163]:
  - 40 CFR 63.163 (a) Implementation and compliance provisions
  - 40 CFR 63.163 (b) Monitoring requirements, leak detection levels, frequency of monitoring
  - 40 CFR 63.163 (c) Repair procedures and time frames
  - 40 CFR 63.163 (d) Calculation procedures to determine percent leaking pumps and requirements for quality improvement programs
  - 40 CFR 63.163 (e)-(j) Exemptions for specific types of pumps
- b. Standards: Pressure relief devices in gas/vapor service [40 CFR 63.165]:
  - 40 CFR 63.165 (a) Operational requirements
  - 40 CFR 63.165 (b) Pressure release procedures
  - 40 CFR 63.165 (c)-(d) Exemptions for specific types of pressure relief devices
- c. Standards: Open-ended valves or lines [40 CFR 63.167]:
  - 40 CFR 63.167 (a)-(c) Operational requirements
  - 40 CFR 63.167 (d)-(e) Exemptions for specific types of valves
- d. Standards: Valves in gas/vapor service and in light liquid service [40 CFR 63.168]:
  - 40 CFR 63.168 (a) Operational requirements
  - 40 CFR 63.168 (b)-(d) Monitoring requirements and intervals
  - 40 CFR 63.168 (e) Calculation procedures to determine percent leaking valves
  - 40 CFR 63.168 (f) Leak repair time frames
  - 40 CFR 63.168 (g) First attempt repair procedures
  - 40 CFR 63.168 (h)-(i) Exemptions for unsafe-to-monitor and difficult-to-monitor valves
- e. Standards: Delay of repair [40 CFR 63.171]:
  - 40 CFR 63.171 Allowances for delay of repair
- f. Standards: Connectors in gas/vapor service and in light liquid service [40 CFR 63.174]:
  - 40 CFR 63.174 (a) Operational requirements
  - 40 CFR 63.174 (b) Monitoring requirements and intervals
  - 40 CFR 63.174 (c) Procedures for open connectors or connectors with broken seals
  - 40 CFR 63.174 (d) Leak repair time frames
  - 40 CFR 63.174 (e) Monitoring frequency for repaired connectors
  - 40 CFR 63.174 (f)-(h) Exemptions for unsafe-to-monitor, unsafe-to-repair, inaccessible, or ceramic connectors
  - 40 CFR 63.174 (i) Calculation procedures to determine percent leaking connectors
  - 40 CFR 63.174 (j) Optional credit for removed connectors
- g. Quality improvement program for valves [40 CFR 63.175]:

Pursuant to 40 CFR 63.168 (d)(1)(ii), in Phase III, the permittee may elect to implement the following quality improvement programs if the percent of leaking valves is equal to or exceeds 2 percent:

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- |                   |   |
|-------------------|---|
| 40 CFR 63.175 (a) | Quality improvement program alternatives  |
| 40 CFR 63.175 (b) | Criteria for ending quality improvement programs                                |
| 40 CFR 63.175 (c) | Alternatives following achievement of less than 2 percent leaking valves target |
| 40 CFR 63.175 (d) | Quality improvement program to demonstrate further progress                     |
| 40 CFR 63.175 (e) | Quality improvement program of technology review and improvement                |

h. Quality improvement program for pumps [40 CFR 63.176]:

Pursuant to 40 CFR 63.163 (d)(2), if, in Phase III, calculated on a 6-month rolling average, the greater of either 10 percent of the pumps in the Mass Plant or three pumps in the Mass Plant leak, the permittee shall implement the following quality improvement programs for pumps:

- |                   |  |
|-------------------|--|
| 40 CFR 63.176 (a) | Applicability criteria                                     |
| 40 CFR 63.176 (b) | Criteria for ending the quality improvement program        |
| 40 CFR 63.176 (c) | Criteria for resumption of the quality improvement program |
| 40 CFR 63.176 (d) | Quality improvement program elements                       |

The same requirements apply to the suspension plant pumps.

**Compliance Demonstration Method:**

A copy of the leak detection and repair (LDAR) program meeting the criteria listed above shall be kept available at a readily accessible location for inspection.

**3. Testing Requirements:**

The permittee shall comply with the following test methods, schedules and procedures requirements [40 CFR 63.180 (a)]:

- |                   |  |
|-------------------|--|
| 40 CFR 63.180 (b) | Monitoring procedures, test methods and calibration procedures |
| 40 CFR 63.180 (c) | Leak detection monitoring procedures                           |
| 40 CFR 63.180 (d) | Procedures for determining organic HAP service applicability   |

**4. Specific Monitoring Requirements:**

See 3. Testing Requirements above.

**5. Specific Recordkeeping Requirements:** [40 CFR 63.181]

- a. All records required by 40 CFR 63.181 shall be maintained in a manner that can be readily accessed at the plant site.
- b. The permittee shall maintain all records pertaining to the pipeline equipment required by 40 CFR 63.181 (b).
- c. For visual inspections, the permittee shall document that the inspection was conducted and the date of the inspection. These records shall be kept for a period of five years [40 CFR 63.181 (c)].
- d. When a leak is detected, the information specified in 40 CFR 63.181 (d) shall be recorded and kept for five years.



**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- e. If the permittee implements any of the quality improvement programs required by 40 CFR 63.175 and 63.176, the records specified in 40 CFR 63.181 (h)(1)-(9) shall be maintained for a period of five years.

**6. Specific Reporting Requirements:**

The permittee shall submit the following reports:

- a. 40 CFR 63.1331(a)(4), Notification of Compliance Status - The permittee shall submit the Notification of Compliance Status required by 40 CFR 63.182 (a)(2) and 40 CFR 63.182 (c) of Subpart H within 150 days of applicable compliance date as specified in 63.1311 for the equipment leak provisions (February 28, 1998). The Notification can be submitted as part of the Notification of Compliance Status required by 40 CFR 63.1335(e)(5). See Section D, Source Emission Limitations and Testing Requirements for the Notification of Compliance Status requirements.
- b. Periodic Reports - See Section D, Source Emission Limitations and Testing Requirements.

**7. Specific Control Equipment Operating Conditions:** None

**8. Alternate Operating Scenarios:** None

**SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**09 Miscellaneous Process and Non-Process Equipment (Not Subject to Subpart JJJ)  
Plant 3 – Suspension Plant (Polystyrene Beads Production)**

1. Two (2) Suspension Batch out Tanks TK-102 and TK-103, Stack: Roof Vent
2. 12,500 gallon Hydrochloric Acid Storage Tank TK-6100  
Construction Date: 09/25/98

**Description:**

Control Equipment for HCl emissions from Emission Unit 1 above: Submerged Fill Pipe

Control Equipment for HCl emissions from Emission Unit 2 above: Packed Column Scrubber

**APPLICABLE REGULATIONS:**

**401 KAR 63:020**, *Potentially hazardous matter or toxic substances* applies to the Tanks above.

1. **Operating Limitations:** None

2. **Emission Limitations:** None

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:**

- a. The times when the HCl in the Batchout Tanks (Emission Units 1) is not added via a submerged fill pipe shall be recorded.
- b. The scrubber shall be inspected to ensure liquid stream flow at the beginning of each fill event at the HCl storage tank (Emission Unit 2). Records shall be kept of times when there is no flow in the scrubber.

5. **Specific Recordkeeping Requirements:**

See 4. Specific Monitoring Requirements and 7. Specific Control Eqp. Operating Conditions.

6. **Specific Reporting Requirements:** None

7. **Specific Control Equipment Operating Conditions:**

- a. The hydrochloric acid solution shall be added to the tank via submerged fill pipe only for the two (2) Batchout tanks (Emission Units 1 above) to meet the requirements of 401 KAR 63:020.
- b. The HCl Storage Tank (Emission Unit 2) shall always vent through a packed column scrubber to meet the requirements of 401 KAR 63:020. The scrubber shall be operational at all the fill events.
- c. The permittee shall install, calibrate, maintain, and operate according to manufacturer's specifications, a device for the measurement of liquid stream flow rates on the packed tower scrubber associated with storage tank (Emission Unit 2). The device shall be set to alarm when the flow is below the manufacturer's recommended minimum flow rate while the scrubber is operational.

**SECTION B - EMISSION POINTS, AFFECTED FACILITIES, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****10 (II) Carbon Adsorber****Plant 2 – Impregnated Polystyrene Beads Production**

**Description:** Primary Product: Expanded Polystyrene

Control Equipment for VOC: Carbon Adsorber, Control Efficiency: 95%

1. Three (3) Reactors (R101, R102, R103) – 10,000 gallon pressure drums  
Construction Dates: January 30, 1987, April 7, 1989, October 4, 1989
2. Two (2) Batchout tanks (601 and 701) , 20,000 gallons  
Construction Date: January 30, 1987, October 4, 1989
3. Two(2) Pentane Storage Tanks (Tanks 107 and 108) - 30,000 gallons  
Construction Date: January 30, 1987
4. Pentane Weigh Tank (D103)
5. Pentane Reclaim Storage (Tank 401), 8,000 gallons  
Construction Date: 12/20/89
- A5 6. Drying Tank, TK 7550  
Construction Date: March 21, 2000

**11 (--)****Plant 2 – Impregnated Polystyrene Beads Production**

1. Three (3) Carter Day Dryers  
Construction Date: (2) on January 30, 1987, October 4, 1989
2. Three (3) Secondary Dryers  
Construction Date: January 30, 1987, (2) on October 4, 1989
3. Three (3) Screeners  
Construction Date: January 30, 1987, April 7, 1989, October 4, 1989
4. Packaging Area #1  
Construction Date: January 30, 1987
5. Packaging Area #2  
Construction Date: October 4, 1989

**APPLICABLE REGULATIONS:**

**401 KAR 60:005**, *Standards of Performance for New Stationary Sources* (**40 CFR 60, Subpart Kb**, *Standards of Performance for Volatile Organic Liquid Storage Vessels*) is applicable to Point 3 above.

**40 CFR 63, Subpart DDD** is applicable to the VOC emissions from equipment leaks from EPS manufacturing process [40 CFR 60.560(a)(4)].

**REGULATIONS NOT APPLICABLE:**

Dart Polymers has elected to rout the emissions from affected facilities listed in Section D of the permit to control equipment (Carbon Adsorber) to avoid the requirements of **401 KAR 51:017**, *Prevention of Significant Deterioration of Air Quality*.

**40 CFR 63.1310, Subpart JJJ - Group IV Polymers and Resins** applies to the Thermoplastic Product Process Unit (Production of EPS, Expanded Polystyrene). However, according to 40 CFR 63.1310(c)(5), Vessels and equipment storing and/or handling material that contain no organic

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

HAP and/or organic HAP as impurities only are exempted from affected source. EPS contains styrene only as an impurity, according to 40 CFR 63.101, as styrene is present in the raw material polystyrene beads.

**40 CFR 63, Subpart DDD** is not applicable to the process emissions as the EPS process is not a continuous process [40 CFR 60.560(a)(2)]. The EPS manufacturing is a batch process.

**401 KAR 60:005**, *New Source Performance Standards (40 CFR 60.110b, Subpart Kb, Standards of performance for Volatile Organic Liquid Storage Vessels)* is not applicable to the Pentane Reclaim Storage Tank, Emission Unit 11, Emission Point 5.

**1. Operating Limitations:** None

**2. Emission Limitations:**

- a. Emission Unit 10, Emission Point 3 (Two Pentane Storage Tanks):  
According to 40 CFR 60.112b(a)(3), a closed vent system with a control device shall be installed meeting the requirements as specified in 40 CFR 60.112b(a)(3)(i) and (ii).  
40 CFR 60.112b(a)(3)(i): The closed vent system shall be designed to collect all VOC vapors and gases discharged from the storage vessel and operated with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined in part 60, subpart VV, 60.485(b).  
40 CFR 60.112b(a)(3)(ii): The Control Device (Carbon Adsorber) shall be designed and operated to reduce inlet VOC emissions by 95 percent or greater.
- b. To avoid 401 KAR 51:017, *Prevention of Significant Deterioration*, VOC emissions from Emission Unit 10, Emission points 2,3,5,6 shall be routed to the Carbon Adsorber through a closed vent system. See Section D, **Source Emission Limitations and Testing Requirements** for group requirements and emission units effected.
- c. Emission Unit 10, Emission Points 1 through 6 [40 CFR 60, Subpart VV requirements as referred by 40 CFR 60.560(a)(4)]: The permittee shall incorporate the following elements in the required leak detection and repair (LDAR) program. If any of the equipment qualifies for the specific exemptions available in 40 CFR 60, Subpart DDD or 40 CFR 60 Subpart VV, the permittee shall maintain records of the reason(s) why the equipment is exempt.
  - i. Standards: Pumps in light liquid service [40 CFR 60.482-2]:

40 CFR 60.482-1	Implementation and compliance provisions
40 CFR 60.482-2(a)	Monitoring requirements, frequency of monitoring
40 CFR 60.482-2(b)	leak detection levels
40 CFR 60.482-2(c)	Repair time frames
40 CFR 60.482-2 (d)-(f)	Exemptions for specific types of pumps
  - ii. Standards: Pressure relief devices in gas/vapor service [40 CFR 60.482-4]:

40 CFR 60.482-4 (a)	Operational requirements
40 CFR 60.482-4 (b)	Pressure release procedures
40 CFR 60.482-4 (c)	Exemptions for specific types of pressure relief devices
  - iii. Standards: Open-ended valves or lines [40 CFR 60.482-6]:

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

- 40 CFR 60.482-6 (a)-(c) Operational requirements
- iv. Standards: Valves in gas/vapor service and in light liquid service [40 CFR 60.482-7]:
- 40 CFR 60.482-7 (a) Operational requirements
  - 40 CFR 60.482-7 (b)-(c) Monitoring requirements and intervals
  - 40 CFR 60.482-7 (d) Leak repair time frames
  - 40 CFR 60.482-7 (e) First attempt repair procedures
  - 40 CFR 60.482-7 (f)-(h) Exemptions for no detectable emissions, unsafe-to-monitor and difficult-to-monitor valves.
- v. Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors [40 CFR 60.482-8]:
- 40 CFR 60.482-8 (a) Operational requirements
  - 40 CFR 60.482-8 (b)-(c) Leak detection and repair time frames
  - 40 CFR 60.482-8 (d) First attempt repair procedures
- vi. Standards: Delay of repair [40 CFR 60.482-9]:
- 40 CFR 60.482-9 Allowances for delay of repair
- vii. Standards: Closed vent systems and Control devices [40 CFR 60.482-10]:
- 40 CFR 60.482-10 (a) Applicability Requirements
  - 40 CFR 60.482-10 (b) Vapor Recovery System efficiency
  - 40 CFR 60.482-10 (e) Monitoring of control devices
  - 40 CFR 60.482-10 (f) Inspection of Closed vent system
  - 40 CFR 60.482-10 (g) Leak detection and Repair
  - 40 CFR 60.482-10 (h) Delay of Repair
  - 40 CFR 60.482-10 (i) – (k) Exemptions for certain types of vapor collection systems or closed vent systems
  - 40 CFR 60.482-10 (l) Record Keeping requirements
  - 40 CFR 60.482-10 (m) Requirement to operate the control device

**Compliance Demonstration:**

- a. A process flow diagram shall be kept available at the plant site which shows that emission unit 11 Emission Points 1 through 6 are routed via a closed vent system to the carbon adsorber. Anytime the emissions are routed away from the adsorber shall be recorded and the reason for the deviation.
- b. See 4. Specific Monitoring Requirements and 7. Specific Control Equipment Operating Conditions below.
- c. For compliance with visual inspections for the two pentane tanks, Method 21 shall be used to determine the presence of leaking sources. Also see 40 CFR 60.485(b).
- d. A copy of the leak detection and repair (LDAR) program meeting the criteria listed above in (c) shall be kept available at a readily accessible location for inspection.

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)****3. Testing Requirements:**

- a. For the leaks from the closed vent system, background concentration shall be established. The emissions shall be measured using FID or similar instrument. Dart has proposed to show during the testing in b. below that all the emissions are captured using the closed vent system. This shall be done according to guidance in 40 CFR 60.113b(a)(3)(i).
- b. Testing shall be done on the carbon adsorber and organic monitoring device to show compliance with 95% emission reduction at the carbon adsorber [40 CFR 60.112b(a)(3)(ii)].  
A testing protocol shall be submitted within three months of permit issuance and be approved by the Division. If the control device or the closed vent capture system receives vapors, gases, or liquids other than from the two pentane storage tanks shall be included in the control efficiency demonstration [40 CFR 60.112b(c)(1)(i) ]. The test results shall be submitted to the Division within 6 months of the initial issuance of the permit. The Division reserves the right to require additional testing.
- c. The permittee shall comply with the following test methods and calibration procedures requirements [Subpart VV referred by Subpart DDD, 40 CFR 60.485]:
  - i. 40 CFR 60.485(a) – (c) Reference Methods and Compliance with standards
  - ii. 40 CFR 60.485(d) Exemption from testing, Procedures
  - iii. 40 CFR 60.485(e) Equipment in light liquid service, applicability

**4. Specific Monitoring Requirements:**

- a. All the emissions under control of the closed vent system shall be drawn into the system by a fan. An alarm shall be activated on the system control panel causing the recovery system to shut down upon the failure of the fan. A log shall be kept of such occurrences.
- b. To show compliance with 95% control efficiency for carbon adsorber, the permittee shall:
  - i. Monitor the solvent laden air (SLA) temperature entering the carbon bed. According to the operating plan for pentane recovery system submitted pursuant to 40 CFR 60.113b(c)(i) and (ii), a alarm is activated when the SLA stream temperature exceeds 65 deg F. A log shall be kept of such occurrences.
  - ii. Monitor Carbon Bed desorption temperature. According to the operating plan for pentane recovery system submitted pursuant to 40 CFR 60.113b(c)(i) and (ii), an alarm is activated if the bed temperature does not reach at least 200 deg F in first 2000 seconds of the regeneration phase. A log shall be kept of such occurrences.
- c. See 4. Testing Requirements above.

**5. Specific Recordkeeping Requirements:**

- a. See 4. Specific Monitoring Requirements above and Section D, Source Emission Limitations and Testing Requirements.
- b. A copy of the operating plan for pentane recovery system submitted pursuant to 40 CFR 60.113b(c)(i) and (ii) shall be kept available.
- c. Subpart VV Requirements as referred by Subpart DDD:
  - i. All records required by 40 CFR 60.486 shall be maintained in a manner that can be readily accessed at the plant site.

- ii. When a leak is identified the procedures in 40 CFR 60.486(b) shall be followed and the information shall be recorded in a log as described in 40 CFR 60.486(c).
- iii. The information on design requirements of closed vent system and control device shall be kept as detailed in 40 CFR 60.486(d).
- iv. 40 CFR 60.486(e) Information of all equipment subject to 40 CFR 60.482-1 to 482-10
- v. 40 CFR 60.486(f) Information of all valves subject to 40 CFR 60.482-7(g) and (h)
- vi. 40 CFR 60.486(g) Information of all Valves complying with 40 CFR 60.483-2
- vii. 40 CFR 60.486(h) Design Criteria and Changes to Design Criteria
- viii. 40 CFR 60.486(i) Exemptions
- ix. Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

**6. Specific Reporting Requirements:**

- a. The periods when the control equipment is malfunctioned.
- b. Subpart VV Requirements as referred by Subpart DDD [40 CFR 60.487]:  
The initial Semi-Annual report as required by Section F of this permit shall include:
  - i. The list of all the equipment (Pipe line components etc..) subject to Subpart VV [40 CFR 60.487(b)].
  - ii. The information on leaks detected, repaired, and not repaired [40 CFR 60.487(c)].

**7. Specific Control Equipment Operating Conditions:**

- a. The carbon adsorber shall be maintained and replaced or regenerated according to the manufacturer's guidelines. Any problems associated with the operation or regeneration of the carbon bed shall be recorded in a log.
- b. The Hydrochloric Acid shall always be added to the Batchout Tanks (emission unit 10, Emission point 2 above) via submerged fill pipe only.

**SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**

**Plant 2 – Impregnated Polystyrene Beads Production**

**12 (--) Two (2) Boilers**

**Description:** Maximum Rated capacity: 14.6 mmBTU/hr  
Construction Date: January 30, 1987  
Primary fuel: Natural Gas

**Plant 3 – Polystyrene Beads (Suspension Plant)**

**13 (--) Two (2) Boilers**

**Description:** Maximum Rated capacity: 29.29 mmBTU/hr  
Construction Date: April 3, 1989  
Primary fuel: Natural Gas

**14 (--) One (1) Boiler**

**Description:** Maximum Rated capacity: 25.0 mmBTU/hr  
Construction Date: May 30, 1990  
Primary fuel: Natural Gas

**15 (--) Three (3) Emergency Generators**

**Description:** Maximum Rated capacity: 1592 hP  
Primary fuel: Diesel

**APPLICABLE REGULATIONS:**

**401 KAR 59:015**, *New indirect fired heat exchangers*, applies to the particulate matter and sulfur dioxide emissions from the combustion of natural gas in five boilers (Emission Unit 12, 13 and 14).

**401 KAR 60:005**, *New Source Performance Standards (40 CFR 60.40c to 60.48c, Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units)* is applicable to the boiler, Emission Unit 14. (Note: The regulation does not have any applicable standards for natural gas fired boilers)

**REGULATIONS NOT APPLICABLE:**

**401 KAR 60:005**, *New Source Performance Standards (40 CFR 60.40c to 60.48c, Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units)* is not applicable to the four boilers, Emission Unit 12 and 13.

**1. Operating Limitations:** None

**2. Emission Limitations:**

Emission Unit 12, 13 and 14:

- a. Pursuant to 401 KAR 59:015, Section 4(1)(c), emissions of particulate matter from the combustion of natural gas shall not exceed 0.316 lb/mmBTU.
- b. Pursuant to 401 KAR 59:015, Section 4(2), the opacity of visible emissions from the



combustion of either natural gas or fuel oil shall not exceed 20%.

- c. Pursuant to 401 KAR 59:015, Section 5(1)(c)1, emissions of sulfur dioxide from the combustion of either natural gas or fuel oil shall not exceed 1.11 lb/mmBTU.

**Compliance Demonstration Method:**

Particulate Matter and Sulfur Dioxide Emissions: (The "Total" used below is the total from the five boilers above and the fuel consumption rate is in millions of cubic feet)

Emission Rate in =  $\frac{[(\text{Total Monthly gas or fuel oil consumption rate} \times \text{Emission lb/mmBTU factor listed in Kentucky Emissions Inventory}) / (\text{Total Hours of operation per month} \times \text{Total Hourly Rated Capacity})]$

**3. Testing Requirements:**

Pursuant to 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

**4. Specific Monitoring Requirements:**

Emission Units 12, 13, and 14:

The permittee shall monitor and maintain records of the following information:

- a. The total monthly fuel usage rate (cubic feet/month or gallons per month)
- b. The total monthly hours of operation (hours operated per month) of the boilers.
- c. The sulfur content of each type of fuel burned. The sulfur content may be determined by fuel sampling and analysis or by fuel supplier certification.

**5. Specific Record keeping Requirements:**

See Specific Monitoring Requirements above.

**6. Specific Reporting Requirements: None**

**7. Specific Control Equipment Operating Conditions: None**

**8. Alternate Operating Scenarios: None**

**SECTION C - INSIGNIFICANT ACTIVITIES**

The following listed activities have been determined to be insignificant activities for this source pursuant to Regulation 401 KAR 50:035, Section 5(4). While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary.

<u>Description</u>	<u>Generally Applicable Regulation</u>
1. Styrene Bulk Truck Loading	None
2. 17,000 gal Mineral Oil Storage Tank	None
3. 12,000 gal Polybutene Tank	None
4. 2-300 gal Catalyst Tanks	None
5. 6000 gal. Ethylbenzene Tank	None
6. 5500 gal Ethylbenzene Lines 1 & 2 Recycle Tank	None
7. 5600 gal Ethylbenzene Lines 3 Recycle Tank	None
8. 10,250 gal. Hazardous Waste Tank	None
9. Mass Plant Pellet Storage Silos & Packaging	None
10. Maintenance Area Space Heaters	None
11. Safety Kleen Cold Solvent Degreaser Units	None (Exempt from 401 KAR 59:185)
12. Ethylbenzene Degreaser Unit	None (Exempt from 401 KAR 59:185)
13. 2-500 gal Fuel Oil Tanks	None
14. 500 gal Gasoline Tank	None
15. Mass Plant Direct Fired Boiler #1,5 MMBtu/hr	None
16. Mass Plant Direct Fired Boiler #2,5 MMBtu/hr	None
17. Mass Plant Direct Fired Boiler #3,5 MMBtu/hr	None
18. Suspension Plant Effluent Tank	None
19. Suspension Plant Vacuum System	None
20. Suspension Plant Centrifuges, Dryers, Screeners and Bins	401 KAR 59:010
21. Bead Truck Loading Station	None
22. Caustic Solution Storage Tanks	None
23. HCl Storage Tank (Deionized Water)	None
24. Suspension Plant Bead Storage Silos	None
25. Impregnation Plant Premix Tank	None
26. Impregnation Pack Area #1 including Blender	401 KAR 59:010
27. Impregnation Pack Area #2 including Blender	401 KAR 59:010
28. Impregnation Plant Cyclones	401 KAR 59:010
29. Impregnation Plant Storage Silos	401 KAR 59:010
30. Impregnation Plant Caustic Storage Tank	None
31. Extruder – Pelletizers (2)	401 KAR 59:010
32. Impregnation Plant Lab/Test Facilities	None
33. Waste Water Treatment Facility	None
34. 2- 287 hP Fire Water Pumps	None
35. Impregnation Plant HCl tanks	None

**SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS**

1. The following requirements apply to all Processes in Plant 1 – Mass Plant (Polystyrene Pellets Production) and Plant 3 – Suspension Plant (Polystyrene Beads Production)

**Recordkeeping Requirements:**

- a. 40 CFR 63, Subpart A requirements:  
*Startup, shutdown, and malfunction plan:* The permittee shall develop and implement a written startup, shutdown, and malfunction plan as specified in 40 CFR 63.6(e)(3) of subpart A [40 CFR 63.1335(b)(1)]. The records shall be kept as specified in 40 CFR 63.1335(b)(1)(i)(A) through 63.1335 (b)(1)(i)(D).
- b. 40 CFR 63, Subpart JJJ requirements [40 CFR 63.1335(d), Recordkeeping and documentation]:  
The permittee shall keep records as specified in 40 CFR 63.1335(d)(1) through (d)(10).

**Reporting Requirements:**

- a. 40 CFR 63, Subpart A requirements:
- i. *Startup, shutdown, and malfunction plan:* The permittee shall submit the semiannual report [63.1335(b)(1)(ii)] on the same schedule, as the Periodic Reports required by 63.1335(e)(6). The report shall include the information specified in paragraphs 40 CFR 63.1335(b)(1)(i)(A) through 63.1335(b)(1)(i)(C) and shall contain the name, title, and signature of the responsible official who is certifying its accuracy.
  - ii. *Application for approval of construction or reconstruction:* 40 CFR 63.1335(b)(2)
- b. 40 CFR 63, Subpart JJJ requirements [40 CFR 63.1335(e), Reporting and Notification]
- i. *Notification of Compliance Status* [63.1335(e)(5)]: The permittee shall submit the Notification of Compliance Status within 150 operating days after the compliance dates specified in 40 CFR 63.1311 [June 19, 2001]. The notification shall contain the information listed in paragraphs 40 CFR 63.1335(e)(5)(i) through (e)(5)(viii).
  - ii. *Periodic Reports* [40 CFR 63.1335(e)(6)]: The permittee shall submit Periodic Reports as specified in paragraphs 40 CFR 63.1335(e)(6)(i) through (e)(6)(xi).
  - iii. *40 CFR 63.1335(e)(6)(i):* The periodic reports shall contain the information as specified in paragraph 40 CFR 63.1335(e)(6)(ii) or 40 CFR 63.1335(e)(6)(iii) through (e)(6)(ix). The report shall be submitted semiannually no later than 60 operating days after the end of each 180 day period. The first report shall be submitted no later than 240 days after the date the Notification of Compliance Status is due and shall cover the 6-month period beginning on the date the Notification of Compliance Status is due. Subsequent reports shall cover each preceding 6-month period.

**SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)****2. The following requirements apply to the listed Emission Units in Plant 2 – Impregnated Polystyrene Beads Production**

- 10      (2)      Two (2) Batchout tanks, 20,000 gallons  
Construction Date: January 30, 1987, October 4, 1989
- 10      (3)      Two(2) Pentane Storage Tanks, 30,000 gal  
Construction Date: January 30, 1987
- 10      (5)      Pentane Reclaim Storage
- 10      (6)      Drying Tank  
Construction Date: March 21, 2000

**Description:**

The above Emission Units are effected (increase in VOC emissions) by the addition of a drying tank and process change to remove additional n-pentane from the finished product by having longer cycle time (5 hours of batch time instead of 2.5 hrs) for circulating the slurry in the batchout tanks. These changes will be referred as “MODIFICATION” in the following sections. Also effected by the MODIFICATION are Pentane Reclaim Storage, Premix Tank, Two (2) Pentane Storage tanks and drying Tank.

Control Equipment for VOC emissions from Emission Units listed above: Carbon Adsorber  
Control Efficiency: 95%

**APPLICABLE REGULATIONS:**

**See Section B, Plant 2 – Impregnated Polystyrene Beads Production**

Note: **401 KAR 51:017**, *Prevention of Significant Deterioration of Air Quality* does not apply to the above Emission Units as the VOC emissions from the modification are limited to 10.51 TPY.

**Operating Limitations:**

The above listed Emission Units shall always be vented to the carbon adsorber to control the VOC emissions.

**Compliance Demonstration:**

- a. The periods when the above listed Emission Units are not vented to the carbon adsorber shall be recorded. If the Emission Units listed above are not vented to carbon adsorber, the permittee shall submit material balance calculations to show that the emissions are below 10.51 TPY. See the Emission Limitations below.
- b. A “process flow diagram” shall always be kept at the plant site showing how the Emission Units are vented to the control device.

**Emission Limitations:**

The total VOC emissions from the MODIFICATION shall not exceed 10.51 TPY during any twelve consecutive month period to stay below 40 TPY PSD significant level for VOC emissions.

**SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)****Compliance Demonstration:**

- a. The emissions from the MODIFICATION are assumed to be in compliance as long as the VOC emissions are always vented to the Carbon Adsorber. If the Emission Units listed above are not vented to carbon adsorber, the permittee shall submit material balance calculations and/or AP-42 guidance to show that the emissions are below 10.51 TPY. The Division reserves the right for additional testing in case of the material balance does not satisfactorily show compliance with the limits. See the Testing, Recordkeeping and Reporting requirements below.
- b. See the Specific Control Equipment Operating Conditions below
- c. Initial emission factors as submitted in the application shall be used to calculate VOC emissions until source specific emission factors are approved for the above Emission Units. See Testing Requirements below for emission factor determination. After the source specific emission factors are approved they will be in the Kentucky Emissions inventory system and shall be used to calculate VOC emissions. Monthly emissions shall be calculated and be kept available at plant, and shall be used to calculate the annual emission rate.

Yearly Emission Rate = 12 month rolling total of monthly emissions

**Testing Requirements:**

Emission factors from the above Emission Units shall be established by testing, Engineering Estimates or AP-42 guidance to calculate the VOC. The Emission factors calculations (Engineering Estimates or AP-42 emission factors) shall be submitted within 3 months of the initial issuance of the permit. For any testing performed to establish emission factors, a test protocol shall be submitted and be approved by the Division. The Division reserves the right to require additional testing.

**Specific Monitoring Requirements:**

- a. See **PLANT 2 – IMPREGNATED POLYSTYRENE BEADS PRODUCTION (Emission Unit 11)** in **Section B** for requirements on carbon adsorber (Page 21, Condition 4. specific Monitoring Requirements).
- b. In case of emissions not being vented to carbon adsorber, all the information necessary for emissions calculations from above emissions units shall be monitored on a monthly basis. The permittee shall submit an alternative compliance plan in advance for Divisions approval.

**Specific Recordkeeping Requirements:**

- a. See the Specific Monitoring Requirements above.
- b. Monthly throughput of the Polystyrene beads and Pentane shall be recorded.

**Specific Reporting Requirements:**

- a. See **PLANT 2–IMPREGNATED POLYSTYRENE BEADS PRODUCTION (Emission Unit 11)** in **Section B** for requirements on carbon adsorber (Page 22, Condition 6, Specific Reporting Requirements).
- b. See the record keeping requirements above.

**Specific Control Equipment Operating Conditions :**

See **PLANT 2 – IMPREGNATED POLYSTYRENE BEADS PRODUCTION (Emission Unit 11)** in **Section B** for requirements on carbon adsorber (Page 22, Condition 7, Specific Control Equipment Operating Conditions).

3. Compliance with annual emissions and processing limitations imposed pursuant to 401 KAR 50:035, Section 7(1)(a), and contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.

## **SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS**

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

## **SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS**

1. When continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
  - a. Date, place as defined in this permit, and time of sampling or measurements.
  - b. Analyses performance dates;
  - c. Company or entity that performed analyses;
  - d. Analytical techniques or methods used;
  - e. Analyses results; and
  - f. Operating conditions during time of sampling or measurement;
2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality. [401 KAR 50:035, Permits, Section 7(1)(d)2 and 401 KAR 50:035, Permits, Section 7(2)(c)]
3. In accordance with the requirements of Regulation 401 KAR 50:035, Permits, Section 7(2)(c) the permittee shall allow the Cabinet or authorized representatives to perform the following:
  - a. Enter upon the premises where a source is located or emissions-related activity is conducted, or where records are kept;
  - b. Have access to and copy, at reasonable times, any records required by the permit:
    - i. During normal office hours, and
    - ii. During periods of emergency when prompt access to records is essential to proper assessment by the Cabinet;
  - c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit. Reasonable times shall include, but are not limited to the following:
    - i. During all hours of operation at the source,
    - ii. For all sources operated intermittently, during all hours of operation at the source and the hours between 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, and
    - iii. During an emergency; and
  - d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements. Reasonable times shall include, but are not limited to the following:
    - i. During all hours of operation at the source,
    - ii. For all sources operated intermittently, during all hours of operation at the source and the hours between 8:00 a.m. and 4:30 p.m., Monday through Friday, excluding holidays, and
    - iii. During an emergency.
4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.



**SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)**

5. Reports of any monitoring required by this permit shall be reported to the division's Owensboro Regional Office no later than the six-month anniversary date of this permit and every six months thereafter during the life of this permit, unless otherwise stated in this permit. The permittee may shift to semi-annual reporting on a calendar year basis upon approval of the regional office. If calendar year reporting is approved, the semi-annual reports are due January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to Section 6(1) of Regulation 401 KAR 50:035, Permits. All deviations from permit requirements shall be clearly identified in the reports.
6.
  - a. In accordance with the provisions of Regulation 401 KAR 50:055, Section 1 the owner or operator shall notify the Division for Air Quality's Owensboro Regional Office concerning startups, shutdowns, or malfunctions as follows:
    1. When emissions during any planned shutdowns and ensuing startups will exceed the standards notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
    2. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards notification shall be made as promptly as possible by telephone (or other electronic media) and shall cause written notice upon request.
  - b. In accordance with the provisions of Regulation 401 KAR 50:035, Section 7(1)(e)2, the owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by general condition 6 a. above) to the Division for Air Quality's Owensboro Regional Office within 3 days. Other deviations from permit requirements shall be included in the semiannual report required by general condition F.5.
7. Pursuant to Regulation 401 KAR 50:035, Permits, Section 7(2)(b), the permittee shall certify compliance with the terms and conditions contained in this permit, annually on the permit issuance anniversary date or by January 30th of each year if calendar year reporting is approved by the regional office, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an approved alternative) to the Division for Air Quality's Owensboro Regional Office and the U.S. EPA in accordance with the following requirements:
  - a. Identification of each term or condition of the permit that is the basis of the certification;
  - b. The compliance status regarding each term or condition of the permit;
  - c. Whether compliance was continuous or intermittent; and
  - d. The method used for determining the compliance status for the source, currently and over the reporting period, pursuant to 401 KAR 50:035, Section 7(1)(c),(d), and (e).
  - e. The certification shall be postmarked by the thirtieth (30) day following the applicable permit issuance anniversary date, or by January 30th of each year if calendar year reporting is approved by the regional office. Annual compliance certifications should be mailed to the following addresses:

**SECTION F - MONITORING, RECORD KEEPING, AND REPORTING  
REQUIREMENTS (CONTINUED)**

**Division for Air Quality  
Owensboro Regional Office  
3032 Alvey Park Drive W  
Owensboro, KY 42303**

**U.S. EPA Region IV  
Air Enforcement Branch  
Atlanta Federal Center  
61 Forsyth St.  
Atlanta, GA 30303-8960**

**Division for Air Quality  
Central Files  
803 Schenkel Lane  
Frankfort, KY 40601**

8. In accordance with Regulation 401 KAR 50:035, Section 23, the permittee shall provide the division with all information necessary to determine its subject emissions within thirty (30) days of the date the KEIS emission report is mailed to the permittee.
9. Pursuant to Section VII.3 of the policy manual of the Division for Air Quality as referenced by Regulation 401 KAR 50:016, Section 1(1), results of performance test(s) required by the permit shall be submitted to the division by the source or its representative within forty-five days after the completion of the fieldwork.

**SECTION G - GENERAL CONDITIONS**(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. A noncompliance shall be (a) violation(s) of state regulation 401 KAR 50:035, Permits, Section 7(3)(d) and is also a violation of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) and is grounds for enforcement action including but not limited to the termination, revocation and reissuance, or revision of this permit.
2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition.
3. This permit may be revised, revoked, reopened and reissued, or terminated for cause. The permit will be reopened for cause and revised accordingly under the following circumstances:
  - a. If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to Regulation 401 KAR 50:035, Section 12(2)(c);
  - b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
  - c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;

Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish to the division, in writing, information that the division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. [401 KAR 50:035, Permits, Section 7(2)(b)3e and 401 KAR 50:035, Permits, Section 7(3)(j)]
5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the permitting authority.

**SECTION G - GENERAL CONDITIONS (CONTINUED)**

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit. [401 KAR 50:035, Permits, Section 7(3)(k)]
7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance. [401 KAR 50:035, Permits, Section 7(3)(e)]
8. Except as identified as state-origin requirements in this permit, all terms and conditions contained herein shall be enforceable by the United States Environmental Protection Agency and citizens of the United States.
9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6). [401 KAR 50:035, Permits, Section 7(3)(h)]
10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance. [401 KAR 50:035, Permits, Section 8(3)(b)]
11. This permit shall not convey property rights or exclusive privileges. [401 KAR 50:035, Permits, Section 7 (3)(g)]
12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Natural Resources and Environmental Protection or any other federal, state, or local agency.
13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry. [401 KAR 50:035, Permits, Section 7(2)(b)5]
14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders. [401 KAR 50:035, Permits, Section 8(3)(a)]
15. Permit Shield: Except as provided in State Regulation 401 KAR 50:035, Permits, compliance by the affected facilities listed herein with the conditions of this permit shall be deemed to be compliance with all applicable requirements identified in this permit as of the date of issuance of this permit.
16. All previously issued construction and operating permits are hereby null and void.

**SECTION G - GENERAL CONDITIONS (CONTINUED)****(b) Permit Expiration and Reapplication Requirements**

This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the division. [401 KAR 50:035, Permits, Section 12]

**(c) Permit Revisions**

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of Regulation 401 KAR 50:035, Section 15.
2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority thirty (30) days in advance of the transfer.

**(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements**

1. Construction of process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.
2. Within thirty (30) days following commencement of construction, and within fifteen (15) days following start-up, and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Division for Air Quality's Owensboro Regional Office in writing, with a copy to the division's Frankfort Central Office, notification of the following:
  - a. The date when construction commenced.
  - b. The date of start-up of the affected facilities listed in this permit.
  - c. The date when the maximum production rate specified in the permit application was achieved.

**SECTION G - GENERAL CONDITIONS (CONTINUED)**

3. Pursuant to State Regulation 401 KAR 50:035, Permits, Section 13(1), unless construction is commenced on or before 18 months after the date of issue of this permit, or if construction is commenced and then stopped for any consecutive period of 18 months or more, or if construction is not completed within eighteen (18) months of the scheduled completion date, then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Extensions of the time periods specified herein may be granted by the division upon a satisfactory request showing that an extension is justified.
4. Operation of the affected facilities for which construction is authorized by this permit shall not commence until compliance with the applicable standards specified herein has been demonstrated pursuant to 401 KAR 50:055, except as provided in Section I of this permit.
5. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance demonstration on the affected facilities in accordance with Regulation 401 KAR 50:055, General compliance requirements. If a performance test is warranted, the tests must be conducted in accordance with General Conditions G(d)6 of this permit and the permittee must furnish to the Division for Air Quality's Frankfort Central Office a written report of the results of such performance test.
6. Pursuant to Section VII 2.(1) of the policy manual of the Division for Air Quality as referenced by Regulation 401 KAR 50:016, Section 1.(1), at least one month prior to the date of the required performance test, the permittee shall complete and return a Compliance Test Protocol (Form DEP 6027) to the division's Frankfort Central Office. Pursuant to 401 KAR 50:045, Section 5, the division shall be notified of the actual test date at least ten (10) days prior to the test.

(e) Acid Rain Program Requirements

1. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

(f) Emergency Provisions

1. An emergency shall constitute an affirmative defense to an action brought for noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or other relevant evidence that:

**SECTION G - GENERAL CONDITIONS (CONTINUED)**

- a. An emergency occurred and the permittee can identify the cause of the emergency;
  - b. The permitted facility was at the time being properly operated;
  - c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and,
  - d. The permittee notified the division as promptly as possible and submitted written notice of the emergency to the division within two working days after the time when emission limitations were exceeded due to the emergency. The notice shall meet the requirements of 401 KAR 50:035, Permits, Section 7(1)(e)2, and include a description of the emergency, steps taken to mitigate emissions, and the corrective actions taken. This requirement does not relieve the source of any other local, state or federal notification requirements.
2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement.
  3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [401 KAR 50:035, Permits, Section 9(3)]

**(g) Risk Management Provisions**

1. The permittee shall comply with all applicable requirements of 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:  
RMP Reporting Center  
P.O. Box 3346  
Merrifield, VA, 22116-3346
2. If requested, submit additional relevant information by the division or the U.S. EPA.

**(h) Ozone depleting substances**

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
  - a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
  - b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
  - c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
  - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166.

**SECTION G - GENERAL CONDITIONS (CONTINUED)**

- e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
  - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.



**SECTION H - ALTERNATE OPERATING SCENARIOS**

The following affected facilities will vent through their dedicated vents (Not through the Anti-Oxidant tank as listed in Section B). This will be done on regular basis or when bringing process systems down. All the requirements including the applicability of 40 CFR 63, Subpart JJJ and the emission limits will continue to apply as described on Pages 2 through 5. **See Pages 2 through 5 of Section B for applicable requirements.**

**01 (--) Batch Process Vents**Stack (M-10) Line 1 :

- |                            |                        |
|----------------------------|------------------------|
| 1. Pre-batch Reactor R-101 | (Group 2 process vent) |
| 2. Pre-poly Reactor R-102  | (Group 2 process vent) |
| 3. U-tube Reactor R-1310   | (Group 2 process vent) |

Stack (M-11) Line 2:

- |                            |                        |
|----------------------------|------------------------|
| 4. Pre-batch Reactor R-201 | (Group 2 process vent) |
| 5. Pre-poly Reactor R-202  | (Group 2 process vent) |
| 6. U-tube Reactor R-2310   | (Group 2 process vent) |

Stack (M-6) Anti-oxidant Tank:

- |                              |                        |
|------------------------------|------------------------|
| 7. Rubber Dissolver #1 D-410 | (Group 2 process vent) |
| 8. Rubber Dissolver #2 D-420 | (Group 2 process vent) |
| 9. Rubber Dissolver #3 D-430 | (Group 2 process vent) |
| 10. Antioxidant Tank TK-0710 | (Group 2 process vent) |

**SECTION I - COMPLIANCE SCHEDULE N/A**

**APPENDIX A**

Category	Plant	Emission Unit	Stack, if applicable	Number of Points
Group 2 Batch Process Vents regulated by 40 CFR 63 Subpart JJJ	Mass	01	M6, Antioxidant Tank Vent	10
	Suspension	02	S6, Reactors 1&2 Vent	1
			S7, Reactors 3&4 Vent	1
Group 2 Continuous Process Vents regulated by 40 CFR 63, Subpart JJJ	Mass	03	M7, Vacuum Pump Vent	1
Storage Vessels Vessels 2,3,4 and 5 in Mass Plant are regulated by 40 CFR 63, Subpart JJJ	Mass	04	NA, not applicable	7
	Suspension	05	NA	5
Wastewater Streams regulated by 40 CFR 63, Subpart JJJ	Mass and Suspension	--	NA	None
Equipment Leaks – Pipeline Equipment regulated by 40 CFR 63, Subpart JJJ	Mass	07	NA	1
	Suspension	08	NA	1
Miscellaneous Process and Non-process Equipment not regulated by Subpart JJJ	Mass	--	NA	0
	Suspension	09	NA	2
-	Impregnation	10	I1, Carbon Adsorber Vent	6
		11	NA	5